Radiation and Environmental Biophysics

Volume 17 · 1980

Editors

V. P. Bond, Upton, NY
F. Dunn, Urbana, IL
H. Fritz-Niggli, Zürich
A. S. Garay, College Station, TX
H. Glubrecht, Hannover
A. W. Guy, Seattle, WA
U. Hagen, Neuherberg
A. Kellerer, Würzburg
K. R. Knoerr, Durham, NC
H. Lieth, Osnabrück
S. M. Michaelson, Rochester, NY
H. Muth, Homburg, Saar
(Managing Editor)
P. Oftedal, Blindern
H. Pauly, Erlangen
H. J. Schaefer, Pensacola, FL
H. P. Schwan, Philadelphia, PA
C. A. Tobias, Berkeley, CA
K. Wagener, Jülich

Springer-Verlag
Berlin Heidelberg New York

The exclusive copyright for all languages and countries, including the right for photomechanical and any other reproductions, also in microform, is transfered to the publisher.

The use of registered names, trademarks, etc. in this publication does *not* imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Springer-Verlag Berlin · Heidelberg · New York
Printers: Carl Ritter & Co., Wiesbaden
Printed in Germany: © by Springer-Verlag Berlin · Heidelberg 1980

Contents

Abstracts of the Papers of the 15th Annual Meeting of the European Society for Radiation Biology 275
Adams, G. E., Jameson, D. G.: Time Effects in Molecular Radiation Biology 95

Bauchinger, M., see Schmid, E. 143
Bond, V. P.: Quantitative Risk in Radiation Protection Standards 1
Bourhoven, D., see Daburon, F., et al. 67
Brabec, V.: An Electrochemical Analysis of Changes in Properties of DNA Caused by Ionizing and Ultraviolet Radiation 129
Büche, G., Kluge, W., Matthäy, H., Moline, A., Münchmeyer, D., Schmidt, D.: Test of a Pion Range Monitor Using the Radiative Capture of Pions on Protons $\pi^- p \rightarrow n\gamma$ 169

Connor, W. G.: Localized Current Field Heating as an Adjunct to Radiation Therapy .. 219

Daburon, F., Villiers, P. A., Fagniez, P. L., Hay, J. M., Tricaud, Y., Bourhoven, D.: Research on the Therapeutics of Intense Abdominal Irradiations in Pigs 67

Edmonds, P. D., see Stolzenberg, S. J., et al. 245

Fagniez, P. L., see Daburon, F., et al. 67
Fritz-Niggli, H.: Radiobiological Evaluation of the Suitability of Negative Pions in Tumor Therapy; Facts and Theories 47

Hay, J. M., see Daburon, F., et al. 67

Introduction 187

Jameson, D. G., see Adams, G. E. 95

Kaufman, G. E., Miller, M. W.: Lack of Effect of Electric Field Exposure on Rats: A Data Re-Evaluation 151
Kluge, W., see Büche, G., et al. 169

Lele, P. P.: Induction of Deep, Local Hyperthermia by Ultrasound and Electromagnetic Fields. Problems and Choices 205
Livingston, G. K.: Thermometry and Dosimetry of Heat with Specific Reference to the Liquid-Crystal Optical Fiber Temperature Probe 233

Matthäy, H., see Büche, G., et al. 169
Miller, M. W., see Kaufman, G. E. 151
Moline, A., see Büche, G., et al. 169
Münchmeyer, D., see Büche, G., et al. 169

Rossi, H. H.: The Role of Microdosimetry in Radiobiology 29

Saucin, M., Vorst, A. Van de: Photodynamic Potentialities of Some Phenothiazine Derivatives 159
Savy, C., Tamboise, E.: Effects of γ-Irradiation on Embryonic Development and Nucleic Acids in Trigeminal Neurons 115
Schleser, G. H.: Oxygen Isotope Fractionation During Respiration for Different Temperatures of *T. utilis* and *E. coli K 12* 85
Schmid, E., Bauchinger, M.: Analysis of Primary Processes in the Formation of Acentric Fragments 143
Schmidt, D., see Büche, G., et al. 169
Schwan, H. P.: Electromagnetic and Ultrasonic Induction of Hyperthermia in Tissue-Like Substances 189
Searle, A. G.: Hereditary Damage 41
Stolzenberg, S. J., Torbit, Ch. A., Edmonds, P. D., Taenzer, J. C.: Effects of Ultrasound on the Mouse Exposed at Different Stages of Gestation: Acute Studies 245

Taenzer, J. C., see Stolzenberg, S. J., et al. 245
Tamboise, E., see Savy, C. 115
Thrall, D. E.: Clinical Requirements for Localized Hyperthermia in the Patient 229
Torbit, Ch. A., see Stolzenberg, S. J., et al. 245
Tricaud, Y., see Daburon, F., et al. 67

Villiers, P. A., see Daburon, F., et al. 67
Vorst, A., Van de, see Saucin, M. 159